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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/719,431	11/21/2003	Kjell Kristoffersen	137682	3956

7590 01/11/2007

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EXAMINER	
JAWORSKI, FRANCIS J	
ART UNIT	**PAPER NUMBER**
3768	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/11/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/719,431	KRISTOFFERSEN ET AL.	
	Examiner	Art Unit	
	Jaworski Francis J.	3768	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 July 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 - 27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1 – 9 and 21 – 27 as amended are rejected under 35 U.S.C. 102(b) as being anticipated by Peterson et al (US6050945), or in the alternative under 35 USC 103(a) as obvious based upon Peterson et al in view of Phelps et al '311, further in view of Moore et al of record. Peterson et al is similarly directed to an apparatus and method for cross-blocking isolation of transmitter-to-receiver and vice-versa within channels for operation of an ultrasound array of elements, see col. 1 lines 27 – 32 and line 52 through col. 2 line 24, wherein in the embodiments of Figs. 6, 8 – 10 and 12 –

13 diode and transistor blocking circuitry including clamping and back-to-back diodes variously isolate coupling between the transmit and receive inputs and outputs, and otherwise discusses variously the iuse of step-up voltage transformers for transmission..

In the alternative, whereas Peterson et al refers to a receiver 'equipped with a pre-amp' and also does not otherwise literally refer to single diode elements as serving in a voltage clamping function, Phelps et al col. 5 lines 23 – 24 makes clear that a pre-amp or a filter alone such as is found in Peterson et al may constitute a 'receiver' if functioning as such; moreover the latter designate the various single diodes as clamp elements for example see discussion of elements 90, 92 in col. 12 lines 23 – 32.

In either case while Peterson et al and Phelps et al include circuitry for coupling and decoupling of the transmitter, they co not teach use of a coupling capacitor therefore, however it would have been obvious in view of Moorre et al element 60 to decouple the receive circuit from interaction with the transmit portion.

Claims 10 – 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peterson et al in view of Phelps et al, further in view of Moore et al insofar as the latter teaches that transmit-receive isolation such as is practiced in Peterson et al may advantageously occur in association with multiplexing to reduce the number of cable signal paths when the array is two-dimensional, see col. 3 lines 30 – 64.

Claims 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peterson et al in view of Phelps et al further in view of Moore et al as applied to claim 10 above, and further in view of Larson, III (US 5229933, of record in the IDS filed 11/21/2003. Whereas the former are silent as to multiplexed patches, it would have

been obvious in view of the latter col. 4 lines 19 - 27 to use subgroupings of rectangular patches including 2 x 2 patches in order to efficiently process signals in large numbers of processing channels.

Claims 19 – 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peterson et al in view of Phelps et a, further in view of Moore et al as applied to claim 10 above, and further in view of Fraser (US6375617) since the latter teaches in figs. 14 – 15 that generally triangular patches of transducer elements may serve as ensonating units during microbeamforming using two dimensional arrays.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication should be directed to Jaworski Francis J. at telephone number 571-272-4738.

FJJ:fjj

102206

Francis J. Jaworski
Primary Examiner